

REMARKS/ARGUMENTS

Claims 14 - 33 are pending in this application.

The Examiner is thanked for the indication that claims 19, 22 – 24 and 27 – 33 would be allowable. However, in view of the following comments, it is respectfully submitted that all of claims 14 – 33 should be allowable.

In order to avoid the prior art problems of having to transfer a substrate from one treatment chamber to another (as is the case in the Kishi reference), claim 14 of the instant application defines an apparatus in the form of a dual process chamber that comprises:

- a) a first process chamber 2 that is provided with at least one opening 29 in a wall 9 of the first process chamber, wherein the at least one opening 29 is closeable from outside of the first process container 2 via a substrate; and
- b) a second process container 60 that is disposed adjacent to the first process chamber 2 such that one wall 9 of the second process container 60 is at least partly that wall 9 of the first process container 2 in which the at least one opening 29 is provided, whereby the at least one opening is furthermore closeable (e.g. via the anode plate 20) from the direction of the first process container 2. (The Examiner's attention is respectfully directed to Fig. 3 of the instant application, as well as to the detailed description thereof that starts on page 17 of the specification).

The Examiner has rejected, among others, claim 14 as being unpatentable over

Kishi in view of Dimock.

The apparatus of Kishi provides a first process container (the treatment tank 3) which has at least one opening 5 in a vertical wall of the first container. This opening can be closed from the outside via a substrate 1. Furthermore, in Figure 4 Kishi discloses a plurality of treatment tanks 3a to 3h, in other words, second process containers, which are all in contact with a common storage tank 2. However, contrary to feature b) of Applicant's claim 14, such a second process container is not disposed adjacent to the first process container such that one wall of the second process container is at least partially that wall of the first process container in which the at least one opening is provided. The treatment tanks or process containers 3a to 3h of Kishi are clearly separated from one another and clearly have their own outer wall that is provided with an opening and that faces away from the tank with such openings being separated from the at least one opening of the outer wall of the first process container.

With the apparatus defined in claim 14 of the instant application, wherein the first and second process containers 2 and 60 at least partially share a wall 9 that is provided with at least one opening 29, a substrate that is to be treated is contained within the second process container during the treatment in the first process container (see also the paragraph bridging pages 3 and 4 of the specification of the instant application). In this regard, Applicant respectfully submits that the language of feature b) of claim 14 of the instant application, namely that a second process container is disposed adjacent to the first process container such that one wall of the second process container is at least partly that wall of the first process container in which the at least one opening is provided, clearly indicates to one of ordinary skill in the art that the at least one opening

29 provides direct communication between the first and second process containers 2, 60. It is respectfully submitted that this feature is clearly missing from the Kishi reference.

Furthermore, as recognized by the Examiner, Kishi does not disclose that aspect of feature b) of Applicant's claim 14 that the at least one opening 29 is also closeable from the direction of the first process container 2. This is an important aspect since it enables a separation of the two process containers on the one hand on the side of the second process container by means of the substrate, and on the other hand from the side of the first process container by means of an appropriate closure means. The advantages achieved by providing two separate ways for closing the at least one opening are described in detail on page 4 of the specification of the instant application, starting at line 5.

It is furthermore respectfully submitted that the features of Applicant's claim 14 missing from the Kishi reference, namely the provision of two adjacent process containers that share a container wall that is provided with at least one opening to provide communication between the two process containers, as well as a closure means operable from the direction of the first process container, are neither taught nor suggested by the secondary reference of Dimock.

Dimock discloses a sputter coating machine to coat wafers, which are loaded into a sputter chamber via a load lock mechanism. Dimock provides only a single process container, namely the sputter chamber. This sputter chamber can be closed from the outside in a conventional manner by a door 61 of an actuator plate, with the door in turn carrying a wafer chuck 57 that is moveable in an axial direction. A vertically

displaceable gate-valve member 119 can be introduced in order, in a manner known per se, to form a load lock chamber to prevent loss of pressure during an exchange of the wafer.

Applicant would first of all like to point out that there would be no motivation for one of ordinary skill in the art to combine a reference (Kishi) that discloses the plating of a semiconductor wafer with an electrolyte solution, with an entirely unrelated device, namely the sputter coating machine of Dimock. In addition, since neither of the cited references provides two adjacent process containers, the Dimock reference certainly cannot suggest to one of ordinary skill in the art how to close off an opening between two adjacent process containers from the direction of a first one of such containers. The Examiner's attention is also respectfully directed to MPEP section 2143.03, which indicates that in order to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. As pointed out above, the cited references do not meet this test.

In particular, even if the Kishi and Dimock references could be combined, such a combination would not result in the features of Applicant's claim 14, already for the reason that such a combination still would not provide the two process containers of features a) and b) of claim 14, which furthermore requires that these two process containers 2, 60 at least partially share a wall 9 of the first process container that is provided with at least one opening 29. Nor would a combination of the cited references provide both for closing off the common opening by the substrate (from outside of the first process container) and by an appropriate closure element (from the direction of the first process container). It should furthermore be noted that the use of a substrate as a

portion of a lock chamber, as described in Dimock, would not even be possible in such a two-container configuration.

In view of the shortcomings of the cited references, Applicant respectfully submits that pursuant to MPEP section 2142, second section (ESTABLISHING A PRIMA FACIE CASE OF OBVIOUSNESS), second paragraph, the Examiner has not met the requirement that "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to be obvious in light of the teachings of the references".

Although Applicant believes that it has shown that claim 14 should now be allowable, and therefore all of the dependent claims should be allowable, for the sake of completeness the following comments are submitted with regard to the rejected dependent claims.

With regard to Applicant's claims 16 and 17, the Examiner has indicated that Kishi teaches a sealing element that forms a lip with an undercut around the opening 5 in the first wall. However, it is respectfully submitted that Figure 5 of Kishi clearly shows that an O-ring 8 is provided as a sealing element. Relative to the periphery of the opening 5, this sealing element is offset radially outwardly, and therefore clearly cannot form the periphery of the opening 5. Rather, the periphery is formed by the chamber wall that carries the O-ring 8. Furthermore, the O-ring does not have an undercut nor a sealing lip, as required by claim 17. Since claim 18 depends on claim 16, it also cannot be obvious over Kishi.

With regard to claim 26, although Kishi discloses a drying device, the same is not provided in a second process container that meets the definition of feature b) of claim 14 of the instant application. Rather, the drying device of Kishi is provided in a chamber that is entirely separate from a first process container.

With regard to claim 21, it is respectfully submitted that the distributor 21 of the Journé reference is a plastic disk having many holes 22, with this disk being disposed between an anode 2 and the semiconductor wafer, which acts as the cathode. The anode 2 itself is solid, and does not permit any fluid to pass through. Therefore, the reference does not disclose or suggest an anode having openings for allowing the fluid to pass through, as required by Applicant's claim 21.

In view of the foregoing discussion, Applicant respectfully requests reconsideration of the allowability of all of pending claims 14 – 33 of the instant application. In addition, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call from him in order to resolve any outstanding issues and expedite placement of the application into condition for allowance.

Respectfully Submitted,



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